

## Schizophrenia : the most serious of psychotic disorders

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**ABSTRACT:** With headlines such as “Ex-mental patient kills family” and “Accused tried to hijack plane ‘to get rid of devil’”, the media and some authors alike have painted an image that people with schizophrenia are prone to violence. Schizophrenia is also often described as a deliberating disease, that it deteriorates progressively. Are these really so? With the award-winning movie, “A Beautiful Mind” acted by Russell Crowe and showcased in recent years, some attention has been given to the disorder which could hardly be pronounced by people at one time. In developing countries such as Malaysia, psychiatric disorders are increasingly becoming important diseases as these countries undergo rapid urbanisation. A currently ongoing IRPA research project, that seeks to study the socioeconomic impact on three major psychiatric disorders (including schizophrenia), states that the government has made the improvement of psychiatric services and mental health programmes a priority in the overall health sector reform (Syed Mohamed Aljunid, 2004). Therefore it is high time a paper on Schizophrenia such as this should be presented. In this paper, the psychotic disorder, schizophrenia is described in some details while attempting to paint a better picture of the disorder. The details include a brief history, the symptoms, the sub-types of schizophrenia, how it is assessed, some statistical facts about schizophrenia, the causes (as explained by the Stress-Vulnerability model) and hence the current treatment and some suggestions on prevention. Can this be any clue to perhaps how the situation for schizophrenia patients in Malaysia is like: the Malaysian Psychiatric Association and Mental Health Foundation have organized a testimony-writing competition for “schizophrenia patients who are moving forward”. With sponsorship from the international pharmaceutical company, Lilly, it is awarding 8 winners in Malaysia with a total scholarship award of RM27,000. Would you say there are many schizophrenia patients who are functioning normally out there or would you still hold to the perception that schizophrenia is a deliberating disease?

(keywords: Schizophrenia, psychiatric disorders ,mental health ,overall health)

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## INTRODUCTION

Schizophrenia is the most serious of the psychiatric disorders and, generally speaking, there is no cure for schizophrenia. The illness is lifelong and it is hereditary. Is there hope for people who have been afflicted with schizophrenia? Is it all gloom and doom? This is what my paper on Schizophrenia is going to attempt to answer. While trying to answer those questions, I will be describing the illness: its symptoms, its sub-types, how it is assessed, the causes, treatment and preventive measures.

Firstly, like many literature, I would like to trace back to when schizophrenia was first recognized and when the word “schizophrenia” was first coined. That means I am going to go back a bit into history so that we can appreciate its current progress in the understanding of the illness and the research done.

## HISTORY

The disorder, schizophrenia, was first recognized by an Englishman, John Haslam (1809) in his book, "Observations on Madness and Melancholy". He noticed a consistent pattern in the people with this disorder and called it "a form of insanity". Greater strides were made in 1898 when a German psychiatrist, Emil Kraepelin, described the illness more and had the symptoms grouped under the Latin term, "dementia praecox". It was Eugen Bleuler, a Swiss psychiatrist who first introduced the term "Schizophrenia" in 1908.

The word "Schizophrenia" comes from the combination of the Greek words for split (schizein) and mind (phren). Bleuler believed that underlying all the unusual behaviors shown by people with this disorder was an associative splitting of the basic functions of personality. This concept emphasizes the "breaking of associative threads" or the destruction of the forces that connect one function to the next. It is illustrated by a difficulty keeping a consistent train of thought. (This inability leads to the many and diverse symptoms schizophrenics display.). Unfortunately the concept of "split mind" inspired the common but incorrect use of the term schizophrenia to mean "split personality". (This section cited in Barlow & Durand, 2002.)

Here we can see that focused interest in schizophrenia only began about two hundred years ago and the proper study of it, probably, only about a hundred years ago. Therefore, I personally think the progress made in its research so far is understandable. Perhaps in another few decades, researchers will be able to find out exactly what the cause of schizophrenia is.

## SYMPTOMS OF SCHIZOPHRENIA

If you ever wonder how the experience of schizophrenia is actually like, Mueser & Gingerich (1994) has this to offer. They say "it is similar to dreaming when one is wide awake" (p.10). While you are dreaming, you believe that the experience is real and not part of your imagination. But when you wake up, you would know that it was only your imagination and thus it would usually not have any effect on you. However, in the case of a schizophrenic, he has "difficulty distinguishing between reality and illusion even when awake" (p.10). When you have a delusion of persecution, it is like having many tennis balls coming over the net and at you at the same time in a tennis game, sending you into a panic and a frenzy. (Mueser & Gingerich, 1994).

Talking about the symptoms of schizophrenia, I would first like to clarify this. Unlike some disorders which we can generally define with a particular symptom e.g. depression always includes feelings of sadness, panic disorder is always accompanied by intense feelings of anxiety, schizophrenia is actually a number of symptoms that are not necessarily shared by all the people who are given this diagnosis. Symptoms vary from person to person. Despite these complexities, researchers have identified clusters of symptoms that make up the disorder. These clusters of symptoms are called "positive symptoms", "negative symptoms" and "disorganized symptoms". There is not yet a universal agreement about which symptoms should be included in these categories as well.

Positive symptoms generally include the more active manifestations of abnormal behavior which are delusions and hallucinations. Negative symptoms involve deficits in normal behavior in such areas as speech and motivation. Disorganized symptoms include disorganized speech, erratic behavior and inappropriate affect. I shall describe each category of symptoms in more details later on.

The latest Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) used for diagnostic assessment has a multiple-part process for determining whether or not someone has schizophrenia. A diagnosis of schizophrenia requires that two or more positive, negative and/or disorganized symptoms be present for at least 1 month (less if successfully treated). (Cited in Barlow & Durand, 2002.)

## **Positive Symptoms**

### **(a) Delusions**

Delusions are strong bizarre beliefs that would be seen by most members of a society as a misrepresentation of reality. Because of its importance in schizophrenia, delusion has been called “the basic characteristic of madness” (Jaspers, 1963) (cited in Barlow & Durand, 2002). There are two main types of delusions: delusion of grandeur and delusion of persecution.

A person with delusion(s) of grandeur would believe that he is famous and important (such as Mother Teresa or Jesus Christ) and he would be trying to “save the world”. An example can be seen in the case of the man who tried to hijack and crash the plane in order to “rid the world of the devil”. He probably thought the devil was in the plane and he was doing the world a favour by getting rid of the devil. (News-report by The Star, 13 July 2004). In his case, the delusions have taken on a threatening proportion, endangering the lives of others. (Note however that Mueser & Gingerich, 1994, say that the belief that schizophrenics are prone to violence is a myth. The few who are violent are the ones who already exhibit violent behavior in the past.)

A delusion of persecution is a belief that others are “out to get them”. For instance, the schizophrenic can be “seeing” that the scene that goes on in the television are depicting a very disturbing conversation and people that are out to get him. The schizophrenic can also think that everybody in his workplace are talking about him and plotting against him because of some guilt-related thing he has done. In the case of a world-class cyclist whom Barlow or Durand (2002) worked with, she believed her opponents would spray her bicycle with chemicals that would take her strength away, and they would slow her down by putting small pebbles in the road that only she would ride over.

### **(b) Hallucinations**

Normal ordinary human beings sometimes get the sensation that someone called their name (when no one was there) or something moved by them (when nothing did). There are fleeting moments like this but in the case of a schizophrenic, these perceptions are very real and occur on a sufficiently regular basis. The experience of sensory events without any input from the surrounding environment is called a hallucination.

Hallucinations can involve any of the senses, although hearing things that are not there (called “auditory hallucination”) is the most common form experienced by people with schizophrenia. I have personally helped a former colleague who had schizophrenia. In a later stage of her schizophrenia (by then she was no longer working at my former workplace), she actually tried to cut her wrist, thereby landing herself in the hospital. She said the voice, which had been disturbing her for some time, asked her to do so. In the case of John Nash whose true story was portrayed in the movie acted out by Russell Crowe, called “A Beautiful Mind”, he saw people who were not there (one which is a “close and caring buddy” and another is that of a spy

agent that got him involved in an intrinsic spy work which of course was non-existent). A hallucination can also be visual.

I would like to mention an interesting research done using sophisticated brain-imaging techniques on people with schizophrenia while they were experiencing auditory hallucinations. The researchers in London (McGuire, Shah & Murray, 1993) discovered that the part of the brain most active during hallucinations was the Broca's area (see on the next page). The Broca's area is for speech production. It was not at the Wernicke's area which is for hearing. An earlier research (Cleghorn et al., 1992) also had the same finding. These observations support a theory that people who are hallucinating are in fact not hearing the voices of others, but are listening to their own thoughts or their own voices and cannot recognize the difference. (Hoffman, Rapoport, Mazure & Quinlan, 1999). (Cited in Barlow & Durand, 2002).

### **Negative Symptoms**

In contrast to the active presentations that characterize the positive symptoms of schizophrenia, the negative symptoms usually indicate the absence or insufficiency of normal behavior ("deficit"). They include emotional and social withdrawal, apathy and poverty of thought or speech.

#### **(a) Avolition**

Avolition comes from the words, "a" (which means "without") and "volition" (which means "an act of willing, choosing or deciding"). Avolition is the inability to initiate and persist in activities. People with this symptom (also called "apathy") show little interest and initiative in performing even the most basic day-to-day functions, including those associated with personal hygiene. (Barlow & Durand, 2002).

#### **(b) Alogia**

Derived from the combination of "a" (without) and "logos" (which means "words"), alogia refers to the relative absence of speech. A person with alogia may respond to questions with very brief replies that have little content, and may appear uninterested in the conversation. His reply can also be delayed or slow. (Barlow & Durand, 2002).

#### **(c) Anhedonia**

Similarly, this word means without "hedonia" (hedonia pertains to pleasure). A person with anhedonia experiences a lack of pleasure or indifference in activities that would typically be considered pleasurable, including eating, sex and social interactions. (Barlow & Durand, 2002).

#### **(d) Flat Affect**

Flat affect is characterized by a lack of emotion shown, particularly obvious with a lack of facial expressions. The person may stare at you vacantly, speak in a flat and toneless manner and seem unaffected by things going on around them. Although they do not react openly to emotional situations, they may indeed be responding on the inside. According to World Health Organization (WHO, 1973), approximately two thirds of the people with schizophrenia exhibit flat affect. (Cited in Barlow & Durand, 2002.)

## **Disorganized Symptoms**

### **(a) Disorganized Speech**

This is precisely what Blueier (1908) called “associative splitting”. Paul Meehl (1962) calls it “cognitive slippage”. People with schizophrenia, while talking, jump from topic to topic and at other times, they talk illogically. Signs of derailment or going off at a tangent is very obvious, too.

### **(b) Inappropriate Affect**

Occasionally, people with schizophrenia display inappropriate affect; laughing or crying at improper times. They could be laughing during a funeral or crying when it is a happy moment.

### **(c) Disorganized Behavior**

Sometimes schizophrenics exhibit bizarre behaviors such as hoarding objects or acting in unusual ways in public. One unusual behavior is catatonic immobility. In catatonic immobility, the schizophrenic patient hold unusual posture, as if she was fearful of something terrible happening if she moved.

This manifestation can also involve waxy flexibility, which is the tendency to keep her body and limbs in the position she is put in by someone else. (Barlow & Durand, 2002). She may appear to be totally oblivious to her surrounding. This, however, is not the case. Despite the apparent stupor, the catatonic may respond to direct instruction and will move out of the way of harm. (Gazzaniga, 1980).

Catatonia is also characterized by other motor dysfunction such as pacing excitably and wild agitation.

Before the introduction of antipsychotic drugs in the 1950s, the eventual outcome of people with catatonia was death (there was also a rise in body temperature and physical exhaustion with marked loss of weight). (Gazzaniga, 1980)

Two people could receive the same diagnosis but behave very differently, one having marked hallucinations and delusions and the other displaying disorganized speech and some of the negative symptoms. Proper treatment depends on differentiating individuals in terms of their varying symptoms. This, thus, leads us to differentiating people with schizophrenia into sub-types.

## **SUB-TYPES OF SCHIZOPHRENIA**

People with schizophrenia are classified into 5 sub-types, namely “Paranoid Type”, “Disorganized Type”, “Catatonic Type”, “Undifferentiated Type” and “Residual Type”.

Research supports dividing schizophrenia into sub-types, because differences among them are identifiable (Black & Andreasen, 1999). For example, the prognosis for individuals with the disorganized sub-type is more pessimistic than for people with the other sub-types. People with the catatonic sub-type have a distinctive course and treatment response. (Cited in Barlow & Durand, 2002).

### **Paranoid Type**

People with the paranoid type of schizophrenia stand out because of their delusions or hallucinations. At the same time, their cognitive skills and affect are relatively intact. They generally do not have disorganized speech or flat affect. They typically have a better prognosis than people of the other sub-types. Research suggests that the paranoid sub-type may function better before and after episodes of

schizophrenia than the other sub-types. (McGlashan & Fenton, 1991). (Cited in Barlow & Durand, 2002).

The hijacker reported in the news-report (The Star, 13<sup>th</sup> July 2004) is a “paranoid schizophrenic” because he had delusions which prompted him to attempt hijacking a plane and crashing it to “rid the world of the devil”.

### **Disorganized Type**

People with the disorganized type of schizophrenia show marked disruption in their speech and behavior (eg. disorganized speech and behavior); they also show flat or inappropriate affect. (American Psychiatric Association, 2000a). They also seem usually self-absorbed, and may spend considerable amount of time looking at themselves in the mirror (Black & Andreasen, 1999). Individuals with this diagnosis tend to show signs of difficulty early, and their problems are often chronic, lacking the remissions (improvement of symptoms) that characterize other sub-types. (McGlashan & Fenton, 1991). (Cited in Barlow & Durand, 2002.)

### **Catatonic Type**

The catatonic type shows a certain kind of disorganized behavior, but in the form of catatonic immobility, waxy flexibility and wild agitation plus pacing excitably. Besides these, they sometimes display odd mannerisms with their bodies and faces, including grimacing (American Psychiatric Association, 2000a). The catatonic type is now relatively rare, due partly to the success of antipsychotic medications. (Cited in Barlow & Durand, 2002)

### **Undifferentiated Type**

People with major schizophrenic symptoms but who do not fit neatly into any of the sub-types mentioned above are classified as the “undifferentiated type”.

### **Residual Type**

People who have had at least one episode of schizophrenia but who no longer manifest major symptoms are diagnosed as having the residual type of schizophrenia. They display the less severe residual or “leftover” symptoms such as negative beliefs, unusual ideas that are not fully delusional, social withdrawal, inactivity and flat affect. (Barlow & Durand, 2002). Another disturbance in an attenuated form, “unusual perceptual experience” is also evident (DSM-IV-TR). An example of unusual perceptual experience is how the person suddenly has his cognitive attention strongly drawn towards the white colour and shapes of white objects rather than focusing on the object for its function which normal people could do. His concentration at this stage is affected. He reacts to things more slowly but he is still capable of driving and functioning in his work without anybody noticing it.

## **ASSESSMENT**

As have been briefly mentioned, mental health professionals use the Diagnostic and Statistical Manual of Mental Disorders (DSM) to assess patients. This is done through a clinical interview with the patient.

Two or more of the following symptoms must be present for a significant portion of time during a one-month period (less if the patient is successfully treated) in order for an assessment of “schizophrenia” to be delivered: delusions, hallucinations, disorganized speech, grossly catatonic behavior or negative symptoms.

However, only one of these symptoms is required for a “schizophrenic” diagnosis if delusions are bizarre, or hallucinations consist of a voice keeping up a running commentary or two or more voices conversing with each other.

As for the duration, there must be continuous signs of disturbance for at least 6 months which include at least 1 month (or less if successfully treated) of symptoms. The 6 months period may include periods of residual symptoms, meaning the patient may have only one episode which lasted at least a month (less if successfully treated) followed by residual symptoms and then the patient has a relapse after the 6 months.

It would not be “schizophrenia” if the disturbance is due to direct physiological effects of a substance (eg. the abuse of drug/medication) or a general medical condition. It would also not be classified as “schizophrenia” if there is mood disorder present. If the patient has a history of autistic disorder or another pervasive developmental disorder, the additional diagnosis of schizophrenia is made only if his delusions or hallucinations are prominent and present for at least a month (less if successfully treated).

### **SOME STATISTICAL FACTS ABOUT SCHIZOPHRENIA**

It has been found that schizophrenia afflicts about 1% of the population (Mueser & Gingerich, 1994; Barlow & Durand, 2002; Haque, 2001). It occurs in both men and women, and in all races, social classes, religions, and cultures (Mueser & Gingerich, 1994; Jablensky, 1995 as cited in Barlow & Durand, 2002). In the case of Malaysia, we can assume that over 200,000 people have schizophrenia (Haque, 2001).

The first signs of symptoms usually appear when the person is in his late adolescence or early adulthood, aged between 16-25 (Mueser & Gingerich, 1994; Kunz & Finkel, 1987). A study by Howard et al (1993) on 470 patients shows that the onset of schizophrenia was highest in the 16-25 years old category.

What kind of people are highly likely to develop schizophrenia? In Malaysia, Yeo (1 August 2004) implied in the Sunday Star that schizophrenia is found more commonly among the lower social economic communities in urban areas. Mueser and Gingerich (1994) quotes that about 10% of all homeless people in America have schizophrenia.

### **CAUSES OF SCHIZOPHRENIA**

Over the past 100 years, many theories have been proposed by scientists to explain the cause of schizophrenia. The majority of them have believed that the illness is biological in nature and involves some type of disturbance in the brain. For example, Kraepelin, back in 1898, firmly believed that the illness was a type of brain disease. (He also believed that the origins would eventually be discovered through biological research which researchers of today have to a large extent accomplished.)

From the 1940s to the 1960s, some mental health professionals argued that schizophrenia was caused by problematic family relationships while the person was growing up or marital problems. Blame was put on the parents or the spouses. However, advances in biological research have led this theory to be abandoned by most practitioners. The profound effects of antipsychotic medications on the symptoms of schizophrenia suggest that the illness is related to disordered brain functioning and is not a psychological response to disturbed family or marital relationships.

There is now a strong consensus that schizophrenia is a biological illness. The question now is exactly which specific biological factor(s) are responsible for the symptoms. Symptoms, as I have said earlier, vary between schizophrenic patients.

The biological evidence found in one patient is not consistent with another patient (although there is substantial data with other patients for a conclusion that biological evidence is one of the factors). In other words, the biological factors/causes also vary. This is where there is still uncertainty today (about the exact cause of schizophrenia). (Mueser & Gingerich, 1994).

To understand the onset, course, severity and relapse of schizophrenia; the Stress-Vulnerability Model provides a valuable framework in understanding it. No single scientist alone claims credit for this model as it has evolved over the years through the contributions of many different scientists (Mueser & Gingerich, 1994).

### **The Stress-Vulnerability Model**

The Stress-Vulnerability Model explains that a person who has biological vulnerability to schizophrenia will have schizophrenia if he is exposed to excessive stress and, at the same time, lacks coping skills. (Mueser & Gingerich, 1994).

Actually a number of vulnerability models exist. The latest one is that proposed by Nuechterlein (1984). (Cited in Birchwood & Tarrier, 1992; Kales, Stefanis & Talbott, 1990). Another is Meehl's Diathesis-Stress Model (1962). (Cited in Birchwood & Tarrier, 1992). The best known is an earlier one proposed by Zubin and Spring (1977). (Cited in Birchwood & Tarrier, 1992.)

I shall explain the causes of schizophrenia by presenting the stress-vulnerability model as described by Mueser and Gingerich (1994). According to this model and I shall reiterate; the development of schizophrenic symptoms are determined by three different factors: biological vulnerability, stress and the individual's coping skills.

### **Biological Vulnerability**

Biological vulnerability refers to the biological predisposition to experience the symptoms of schizophrenia. Biological vulnerability can be due to any one of these two encompassing reasons: an inherited tendency due to genetic factor or exposure to early biological risks (Mueser & Gingerich, 1994).

### **Inherited tendency**

Many studies have been done on both identical and fraternal twins, raised together and apart. According to Gottesman (1991), a person whose identical (monozygotic) twin is affected with schizophrenia has approximately 48% chance of having it too since the identical twin shares 100% of the person's genetic information. For a fraternal pair (dizygotic twins), the risk drops to about 17% since the other twin only shares 50% of the person's genetic information.

Theoretically, if twins are raised together, identical twins share 100% of their genes and 100% of their environment, whereas fraternal twins share only about 50% of their genes and 100% of their environment. If the environment is solely responsible for schizophrenia, we would expect little difference between identical and fraternal twins with regard to this disorder. If only genetic factors are responsible, both identical twins would always have schizophrenia (be concordant) and the fraternal twins would both have it about 50% of the time. (Cited in Barlow & Durand, 2002.)

Gottesman's findings on the concordance rate for identical twins was 48% and for fraternal twins, it was 17%. The reason why for identical and fraternal twins, they were not 100% or 50% respectively as theorized is because it is not genetic factors alone which is responsible. However, note that for identical twins, the rate is much



higher than that for fraternal twins. That's because of their shared genes. This shows to us that genetic factor may actually play a part.

A study by Tienari (1992) in Finland confirms that there really is a genetic factor involved. From a sample of almost 20,000 women with schizophrenia, the researchers found 164 mothers who gave up children for adoption. Then they "followed" these children. 155 offspring of mothers with schizophrenia and 185 children of control mothers without schizophrenia were studied. Among them, researchers identified 16 children with schizophrenia or other psychotic disorders who had mothers with schizophrenia ( $16 \text{ of } 155 = 10.3\%$ ). Only 2 children with schizophrenia or other psychotic disorders with non-schizophrenic mothers have been found ( $2 \text{ of } 185 = 1.1\%$ , which is consistent with the risk rate for the general population). So, even when raised away from their biological parents, children of parents with schizophrenia have a much higher chance of having the disorder themselves ( $10.3\%$  compared to  $1.1\%$ ). This definitely points to a genetic factor involved. (Cited in Barlow & Durand, 2002)

Studies by researchers from the United States and Denmark (Kety et al, 1978; Lowing, Mirsky, & Pereira, 1983; Rosenthal et al., 1968) also concluded that children of people with schizophrenia who are adopted into families without schizophrenia still have a higher than average rate of having schizophrenia themselves. (Cited in Barlow & Durand, 2002).

Since genes play a part, the above-mentioned studies also show to us that one can have genes that predispose one to schizophrenia, not show the disorder but still pass on the genes to one's children. In other words, it is possible to be a "carrier" even if one does not exhibit schizophrenic symptoms (esp. so if one has a blood relative who has schizophrenia.) (Barlow & Durand, 2002).

Many research on people with schizophrenia have shown that people with schizophrenia commonly (although not all) have either a chemical imbalance in their brain, enlarged ventricles or lower activity in the frontal lobes. (Barlow & Durand, 2002). Sometimes, they have signs of more than one of these brain abnormalities. So, we can say inherited tendency/predisposition to schizophrenia is reflected by one or more of these problems: chemical imbalance, enlarged ventricles or low activity in frontal lobes (Mueser & Gingerich, 1994).

#### **(a) Chemical imbalance**

In some people with schizophrenia, there is a chemical imbalance in the brain. In other words, dopamine, the neurotransmitter, is at too high a level. Chemical "messages" are transported in this way from neuron to neuron throughout the brain. Some drugs have an agonistic effect (that is, it increases the chemical messages) but antipsychotic drugs have an antagonistic effect. They reduce the excessive dopamine activity in schizophrenic patients. (Bates et al., 1991; Carlsson, 1978; Creese, Burt & Synder, 1976; Seeman, Lee, Chau Wong & Wong, 1976 as cited in Barlow & Durand, 2002) (Wong et al., 1988; Seeman et al, 1993 as cited in Feldman, 1997).

More recent research have shown that it is not just excessive dopamine which is at fault but also another neurotransmitter, serotonin. The interplay between dopamine and serotonin are responsible for some of the symptoms of schizophrenia. (Hsiao et al., 1993; Kahn et al., 1993 as cited in Barlow & Durand, 2002).

#### **(b) Enlarged ventricles**

It has been observed in some people with schizophrenia that their ventricles in the brain are enlarged. It is not ventricle size in itself that may be a problem, but the

dilation (enlargement) of the ventricles. The dilation of the ventricles indicates that adjacent parts of the brain have either not developed fully or become weaker due to disuse, thus allowing the ventricles to become larger.

**(c) Less activity in frontal lobes**

Comparing 15 twin pairs, researchers have found that the brain activity in the frontal lobes (measured by cerebral blood flow) of all the twins with schizophrenia is lower than that of the healthy twins (Weinberger, Berman, Suddath, & Torrey, 1992). Other studies by Weinberger (Berman & Weinberger, 1990; Weinberger, Berman, & Chase, 1988) also showed this phenomenon known as “hypofrontality” (“hypo” means less active).

**Exposure to early biological risks**

There is now a growing evidence indicating that certain environmental factors to which a baby may be exposed in the mother’s womb or at birth are related to vulnerability in developing schizophrenia. (Mueser & Gingerich, 1994). Perhaps exposure to early biological risks explains how a person who does not have the inherited tendency becomes the first person in his family to have schizophrenia. Exposure to early biological risks can be via two ways: viral infection or birth complications.

**(a) Viral infection**

Several studies have shown that schizophrenia may be associated with prenatal exposure to influenza. For example, Sarnoff Mednick and his colleagues (1991) followed a large number of people after a severe influenza epidemic in Helsinki, Finland and found that those whose mothers were exposed to influenza during their pregnancy were much more likely to have schizophrenia than others. This observation has been confirmed by some researchers (eg. O’Callaghan et al., 1991; Venables, 1996). However, there are also researchers who did not agree to this observation (Torrey, Rawlings, & Waldman, 1988). (Cited in Barlow & Durand, 2002)

**(b) Birth complications**

More convincingly are the evidence of birth complications in identical twins. Carson & Sanislow (1993) found that birth complications such as the loss of oxygen (anoxia) could affect only one of the identical twins. McNeil (1987) found that obstetrical complications appear often among twins with schizophrenia in discordant identical pairs, and among the more severely affected if both twins have schizophrenia. (Cited in Barlow & Durand, 2002.) Other examples of birth complications reported are forceps delivery and fetal distress. Some scientists suggested that exposure to these types of environmental “insult” may cause small amounts of brain damage which only become apparent later in the person’s development. (Mueser & Gingerich, 1994.)

**Stress**

If a person has a biological vulnerability/predisposition to schizophrenia, excessive stress can trigger the symptoms of schizophrenia according to the Stress-Vulnerability Model. (Note that if the person does not have a vulnerability, he will not develop schizophrenia even under excessive stress.) (Mueser & Gingerich, 1994).

Excessive stress can be in the form of traumatic life events such as the death of a loved one, marital or boy-girl relationship break up, or loss of job. Living in an

environment in which there is a great deal of conflict, hostility, criticism or negativity between the patient and others (either family members or professional staff) can be stressful to patients and increase their risk of relapse. (Mueser & Gingerich; Brown, 1959; Brown et al., 1962). Also, an environment that places heavy demands on the patient can be stressful. (Mueser & Gingerich, 1994).

### **Coping Skills**

Coping skills refers to a patient's ability to handle stress effectively and thereby reduce the negative effects of stress. Some evidences of poor coping skills are a lack of social skills and the inability to relax. Having had a biological vulnerability to schizophrenia, the excessive stress a person experiences and is unable to cope with will trigger an onset of schizophrenia or a relapse. (Mueser & Gingerich, 1994.)

## **TREATMENT**

The treatment of schizophrenia is guided by three general principles that follow directly from the stress-vulnerability model.

### **Reduce biological vulnerability**

Since the introduction of antipsychotic drugs in 1952 (Frith and Johnstone, 2003), help was available for people with schizophrenia. Although some patients had to go through trial and error with the psychiatrists in determining which medication suit them best or that some actually do not respond to antipsychotic drugs at all, most patients respond well to the medication. That is, on condition, they take the medication consistently (inconsistent or refusal to take medication often lead to relapses). (Barlow & Durand, 2002). (Many patients who refuse to take medication attribute it to the unpleasant side effects experienced by some.) The antipsychotic drugs are also called "neuroleptics", which mean "taking hold of the nerves". When the neuroleptics are effective, they help the patients think more clearly and reduce or eliminate hallucinations and delusions. To a lesser extent, the negative and disorganized symptoms are reduced, too. Some of the neuroleptic drugs proven effective are haloperidol, risperidone, sulpiride and the most recently introduced one, clozapine which promises patients less side-effects. (Barlow & Durand, 2002).

Recently in 2000, Hoffman and colleagues tried "transcranial magnetic stimulation" on 12 patients who experienced auditory hallucinations. They found that many of the individuals experienced improvement following it. The technique uses wire coils to repeatedly generate magnetic fields – up to 50 times per second – that pass through the skull to the brain. This input interrupts the normal communications temporarily to that part of the brain. However, this research is not well-validated yet and research to assess the true value of this technique has been going on. (Cited in Barlow & Durand, 2002.)

### **Reduce environmental stress**

Together with drug therapy, individual psychotherapy is administered to help the patient manage the psychological factors that can also contribute to the illness. (Barlow & Durand, 2002). Most clinicians today agree that the most beneficial treatment for schizophrenia is some combination of antipsychotic medication and therapy (Sue, Sue & Sue, 2003; Barlow & Durand, 2002). Since this paper is for a counsellors' conference, I shall describe individual psychotherapy at some length.

The psychoanalytic/psychodynamic approach where the therapist helps the patient dig deep into his past to bring to surface unresolved conflicts in his childhood, for instance, has fallen out of favour. Hogarty and colleagues (1997) reported of a recently tried out “personal therapy” which is more favourable. Personal therapy equips patients with a broad range of coping techniques and skills. The therapy is staged, which means that it comprises different components that are administered at different points in the patient’s recovery. For example, in the early stages, patients examine the relationship between their symptoms and their stress levels. They also learn relaxation and some cognitive techniques. Later, the focus is on social and vocational skills. (Cited in Butcher, Mineka and Hooley, 2004.)

A successful cognitive technique used by Chadwick, Sambrooke, Rasch, and Davies (2000) is helping patients develop the means of critically evaluating their beliefs (delusions) or hallucinations (as cited in Sue, Sue & Sue, 2003). The initial sessions with the terrified and helpless schizophrenia patients, who usually view the voices as omnipotent, focused on exploring when the voices began, why they think the voices occurred, and how the voices affected their lives. Later, the beliefs of omnipotence were subjected to empirical testing by demonstrating that certain behaviors could reduce the voices. They also evaluated the possibility that the voice was internally generated. This process was effective in reducing the perceived power and control of the voices.

Coping strategies such as reading aloud to combat auditory hallucinations, asking for increased medication, seeking help or distraction and relaxing when they feel their symptoms are worsening have also been used (Sue, Sue & Sue, 2003.)

With the effectiveness of drug therapy, the responsibility for mental health care has recently been delegated to the community (and the patient’s own family). More patients are treated as outpatients rather than being hospitalized (unless their illness is severe) and there are more community efforts in providing support and rehabilitation for the patients. (Haque, 2001; Barlow & Durand, 2002). It has been found that traditional institutional treatments providing custodial care have yielded poor results (Sue, Sue & Sue, 2003).

The self-help group therapy is one example of how the community come together to help each other. (Mueser & Gingerich, 1994). A group of outpatients come together, with the supervision of a skilled personnel, to share with each other how they are coping and for an exchange of ideas on reducing stress and coping skills. Group therapies are carried out in Malaysia but they are not frequent and in smaller towns, they are not available. According to Nolen-Hoeksema (2004), the self-help support groups in the U.S.A. also practice generating and role-playing solutions to social situations besides discussing the impact of the disorder on their lives, the frustrations of trying to make people understand their disorders, their fears of relapse and their experiences with various medications.

Behavioral family therapy has been used in the U.S.A. to teach the families of persons with schizophrenia to be more supportive. Family members are taught practical facts about schizophrenia, its symptom triggers, its treatment, antipsychotic medications and its side effects; and relieved of the myth that they caused the disorder. They are also helped with communication skills to replace the harsh criticism that characterizes some family interactions. In addition, they learn problem-solving skills to help them resolve conflicts that arise. (Barlow & Durand, 2002; Mueser & Gingerich, 1994.) I personally am not aware of any formal “classroom” family therapy in Malaysia. However, psychiatrists do ask to see the patient’s family members at times. Dr. Yen Teck Hoe, in a Sunday Star article (Tee, 1 August, 2004),

mentioned of a counseling therapy for family members but he did not give any indication whether it was a classroom kind of behavioral family therapy. Psycho-education, which is similar but providing only information and not therapy, is available for patients and family members at the psychiatric clinic of the Sultanah Aminah Hospital in Johor (it is said to be available in other parts of Malaysia, too).

### **Improve coping skills**

Improving coping skills can be in the form of social skills training (esp. in community settings) and rehabilitation which teaches vocational and self-care skills. (Barlow & Durand, 2002; Mueser & Gingerich, 1994). Social skills training reduces the stress brought on by a lack of social skills which is typical of schizophrenia patients. In Malaysia, there are rehabilitation such as one organized by Malaysian Care, a non-governmental organisation. Malaysian Care teaches self-care skills, social skills and spiritual coping skills (Malaysian Care is a Christian organization).

Research have shown that the addition of social skills training, family intervention and vocational rehabilitation has been more effective in preventing relapse than drug treatment alone (Falloon, Brooker & Graham-Hole, 1992 as cited in Barlow & Durand, 2002 and Hogarty et al., 1997 as cited in Nolen-Hoeksema, 2004).

## **PREVENTIVE MEASURES**

Since one does not know whether one has a predisposition to schizophrenia in the first place, I believe it wise for all people to take measures to prevent it from happening to oneself or to our loved ones. For those who are already afflicted with schizophrenia, the following preventive measures should work against relapses.

### **(a) Healthy lifestyle**

Healthy lifestyle from the physical, spiritual and mental aspect is most important. There should be a healthy exercising of the mind. Sleep must be sufficient.

### **(b) Avoid excessive stress / Stress management**

Excessive stress is discouraged. Learn to relax. The many stress management seminars and talks of late should be given a consideration.

### **(c) Happy social relationship**

Good social relationships with family and friends should be cultivated. Effective social skills can be learned.

### **(d) Improve prenatal care and nutrition**

Taboos for pregnant women may actually be very sound after all! Vaccinations against viruses (eg. influenza) for women of childbearing age may be a valid preventive measure.

## **CONCLUSION**

Although the manifestations of the symptoms of schizophrenia are frightening to an onlooker and although complete recovery is rare, about 55% of the people with schizophrenia can return to normality eventually (although they may have slight residual symptoms). (Chart from Barlow & Durand, 2002.)

Consider the testimony of John Nash whose real life story was portrayed in the movie, "A Beautiful Mind" acted by Russell Crowe (Yeo, 1 August, 2004; New Straits Times, 18 November 1994). Firstly, John Nash was not of low intelligence

before his symptoms appeared. He was a Mathematics genius. Infact he was awarded a Nobel Prize for his thesis written before he came down with schizophrenia. Secondly, he was able to function quite normally again when he “came out of isolation”, although it took him quite some time. New Straits Times (18 November 1994) reported him as starting “to learn new things, like using computers for his research”.

Thara (2004) found, in a 20-year longitudinal study in Madras, that previously held perceptions that schizophrenia deteriorates progressively is no longer tenable. This is supported by an earlier study, Shepherd et al’s 1989 five-year study.

With the advent of even better antipsychotic drugs (with less side-effects), the hope of a happy life for people with schizophrenia seems even brighter. It definitely is not all gloom and doom for schizophrenic sufferers. More than 55% can function normally if they cooperate with medication and treatment.

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